

DOCUMENT RESUME

ED 237 842

CG 017 096

AUTHOR Odebunmi, Akin
TITLE A Review of Etiological Formulations and Possible Treatments of Enuresis.
PUB DATE May 83
NOTE 20p.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Modification; *Counseling Techniques; Drug Therapy; Emotional Disturbances; *Etiology; Literature Reviews; Physiology; Preschool Education; Psychiatry; *Psychophysiology; Psychotherapy; Young Children

IDENTIFIERS Bladder Control; *Enuresis

ABSTRACT

This literature review discusses enuresis from various etiological formulations: psychoanalytic and psychodynamic; medical and physiological; and behavioral. Both historical and current perspectives on a definition of enuresis are offered. Treatment methodologies are reviewed. An emphasis is placed on the ruling out of medical causes before any treatment is begun. Drug therapy, behavior modification, psychotherapeutic intervention, bladder training, and the use of machines (Enutone) are discussed as possible types of treatment. (BL)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED237842

A REVIEW OF ETIOLOGICAL FORMULATIONS & POSSIBLE TREATMENTS OF
ENURESIS

BY

AKIN ODEBUNMI PH.D.

DELAWARE VALLEY MENTAL HEALTH FOUNDATION

DOYLESTOWN, PENNSYLVANIA.18901.

May 1983.

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

X This document has been reproduced as
received from the person or organization
originating it.
Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Akin Odebunmi

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

CG 017096

INTRODUCTION

The involuntary and unconscious passing of urine after an arbitrary age limit of three years, in the absence of any significant congenital or acquired defect or disease of the nervous and uro-genital systems, and in the absence of significant psychological defects.^{1.}

Uncontrolled, unintentional voiding of urine at one expulsion usually occurring during sleep; it may be considered to be present if bed-wetting occurs past the age of three, a liberal time for control on urination to have been established in so-called normal individuals.^{2.}

Since the above definitions have been challenged simply because the expected age of three years does not seem to give room for the individual differences which exist in children, an additional one year has been suggested by many Developmental psychologists to lessen the parental pressures on average and below average children some of whom are unable to acquire the needed skill to control their bladder (micturition).

Enuresis can therefore be conveniently defined as the involuntary discharge of urine during sleep after the age of 3 to 4 years in the absence of demonstrable organic pathology. In many cultures the expected ages differ. Some cultures even ignore enuresis as a problem. Enuresis is commonly referred to as bed-wetting. Nighttime bed-wetting is known as nocturnal enuresis while daytime wetting is called diurnal enuresis.

Many researchers have researched into the average age of nocturnal bladder control among children. Anderson (1930) claimed that 'the average age of nocturnal bladder control among children of intelligent and educated parents is 23 months.'³ Other researchers supported this and further enlightened that age 3 to 4 years seem more probable for most children to remain dry in the morning. They also emphasized that occasional bed wetting beyond this age is common when a child becomes temporarily excited or upset. Change of living environment, entering school, change of school or any emotional excitement sometimes precipitates a temporary relapse of bladder control.⁴

Bransby, Bloomfield, and Douglas in 1955 claimed that at the age of 4 - 5 years, approximately 20% of all children in developed societies are still wetting the bed with sufficient frequency to constitute management problem.⁵

The social, psychological and physiological effects of enuresis on both the children and parents have created a widespread interest in the etiology of the disorder, as well as a considerable demand for an effective treatment.

ETIOLOGY OF ENURESIS

There are many etiological formulations between behavior therapists and psychodynamic therapists. In this paper the major formulations such as; Psychoanalytic and Psychodynamic, Medical and Physiological and the Behavioristic Formulations will be considered

PSYCHOANALYTIC AND PSYCHODYNAMIC FORMULATIONS: Those who hold to this view regard enuresis as a classical example of the symptomatic theory and is invariably regarded as the overt symptom of some basic underlying disturbance. Freud, on enuresis declared, 'whenever enuresis nocturna does not represent an epileptic attack, it corresponds to a pollution, i.e. masturbation.^{6.}

Fenichel pursuing Freud's thoughts claimed;

"Infantile (nocturnal or diurnal) enuresis is a sexual discharge. Urinary excretion originally served as an autoerotic activity which gave the child urethral-erotic (and cutaneous) satisfaction..... Between the infantile autoerotic wetting and the later symptom of enuresis there was a time of masturbation..... bedwetting is very often an expression of sexual fantasies proper to the opposite sex. Girls in whom urethral eroticism is well marked are almost always dominated by an intense envy of the penis. Their symptom gives expression to the wish to urinate like a boy. In boys the incontinence usually has the meaning of a female trait; such boys hope to obtain female kinds of pleasure by 'urinating passively'.^{7.}

Berezin (1954) in his psychoanalytic and psychodynamic formulations of the etiology of enuresis stressed the active and passive (male/female) aspects of the enuretic act and argued that it may represent a prototypical sexual experience so that, later in life, it may represent a determinant in masturbation and coital fantasies.^{8.} Robertiello (1956)

supported Erezin and agreed that enuresis represents gratification of a masturbatory wish via the urinary system, but went further to declare that the function of bed-wetting was the cooling-off of the penis, the fire (i.e., sexual drive) of which was condemned by the super-ego (hence, bed-wetting is, as it were, an agent of the super ego.^{9.}

An extreme psychoanalytic formulation was even pursued by Imhof in 1956 who considered that the neurotic type of enuresis resulted from emotional conflicts which is usually of the mother-child relationship. He considered enuresis as an expression of a demand for love which may be characterized as a form of weeping through the bladder. This can be explained as a form of depressive reaction.^{10.}

A less extreme view was held by Grunewald who argued that the morning erection arising from awakening with a full bladder which is a common phenomenon among children is often disapproved by parents who regard it as a manifestation of sexual drive. Their disapproval results in bed wetting which has the effect of producing a flaccid penis on awakening but also induces a double avoidance conflict in the child. The conflict is between fear of an erection on waking versus fear of wetting which produces anxiety and sleep disorder.

Other psychodynamic formulations were made by Decurtins (1957) who regarded enuresis as a symptom of anxiety, restlessness, and inner conflicts.^{11.} Vox in 1962 also considered enuresis to be a reactive psychosis against familial or societal deprivations and frustrations.

The proponents of the psychoanalytic and psychodynamic formulations all agree to the fact that enuresis is a symptom of some underlying disturbance of a fundamentally more important nature. They also agree that direct symptomatic treatment is not only futile but, even if successful, may lead to displacement to other more harmful symptoms, such as neuroses.

Children who are enuretic usually demonstrate other symptoms of emotional maladjustment such as; "Need for attention" which occurs when a child feels neglected, rejected and unloved, he then seeks other ways of gaining needed emotional gratifications, and since bed-wetting is a sure way of getting the parent's attention, the child may develop a pattern of enuresis.

"Unstable home environment" is usually responsible for most children's emotional problems. Children of emotionally unstable parents tend to develop emotional difficulties which are manifested in bed-wetting. The insecured child often result into bed-wetting to direct parent's attention to themselves.

MEDICAL AND PSYCHIATRIC FORMULATIONS: In the etiology of enuresis the medical and psychiatric formulations stressed the following two points; First, that enuresis is part of a physiological syndrome and Second, that enuresis is part of a personality syndrome.

A proponent of the medical and psychiatric formulations, Crosby (1950) claimed that;

"essential enuresis is not primarily a system, but that it is an entity or state arising from physiological or psychological origin,.....and that conversion from enuresis to continence usually occurs by physiological responses, and that a further reversal from continence to enuresis is always possible." 12.

Crosby and others who held to this formulations strongly believe that the process of achieving micturitional control is basically a process of physiological maturation at progressively higher brain centers. This group also held that for nocturnal continence to be obtained, two conditions must be met. First, inhibition of detrusor activity coupled with increased bladder capacity, so that reflex micturition is not precipitated at low bladder volumes; and Second, increased prepotency of this inhibition over the visceral afferent stimuli tending to initiate micturition, to the point at which stimulation from the filling bladder will initiate waking before it initiates reflex voiding. 13.

Gillison and Skinner (1958) came up with a viewpoint similar to that of Crosby. They claimed that; "failure to achieve control of micturition is mainly a failure of development - a failure, that is, to substitute cerebral control for the spinal control of the infancy." 14.

Hodge and Hutchings (1952) in their research finding suggested that, 'failure to achieve micturitional control is primarily a result of inadequate development of cortical control over sub-cortical reflex circuits. ' 15.

Stalker and Band (1946) in their own finding considered enuresis to be one of a local autonomic symptom complex, consisting of nocturnal enuresis, rising at night, diurnal enuresis, diurnal frequency and urgency, and encompassis. 16.

Braithwaite (1955) in his own study stressed the need for control data from non-enuretic children. He showed in several instances that physiological disturbances are frequent in both enuretic and non-enuretic children. In a similar research Lickorish (1964) compared 100 enuretics and 100 non-enuretics on 30 personality characteristics and claimed to find very few differences in their personality characteristics.^{18.}

Although some researchers have claimed that they could not find significant difference in the personality characteristics of enuretics when compared with non enuretics, others have claimed the opposite and that enuresis is a neurotic trait and is normally found in accompaniment with other common so-called neurotic traits of childhood, such as thumb-sucking, temper tantrums, and juvenile delinquency, and psychopathic personality when enuresis persist into adolescence.

Those who hold to the view that enuresis is a neurotic trait include; Michaels (1955) who postulated that enuresis is primarily the reflection of a poorly integrated and developed personality. He concluded that persistent enuresis reflected a failure of the development of inhibitory controlling mechanisms and linked it, when it persisted into adolescence, with juvenile delinquency and psychopathic personality.^{19.}

Pierce and Lipcon, (1956) in their own study conducted on 60 enuretics and 60 non-enuretic recruits to the Armed Services concluded that the enuretic showed a wide variety of neurotic traits and special sexual fears. The enuretics, they claimed

were less successful in all areas of adjustment, had more sibling rivalry, stricter parents, and were prone to chronic illness.^{20.}

Stalker & Band (1946) in their own finding concluded that anxiety and psychopathic features were characteristic of enuresis. They associated enuresis with psychopathy.

The argument whether or not enuretics are different in personality characteristics to non enuretics is a continuous concern in research on enuretics. Two points remain clear though, first, the evidence is contradictory because of the wide variations in studied samples, secondly, some studies were limited to certain ages while some other studies were conducted on adults. Also it is clearly impossible to determine from studies on enuretics whether;

- the personality deficiencies have arisen independently of the enuresis.
- the personality deficiencies are a reaction to the difficulties and conflicts which result from parental disapproval of the enuresis over a period of time.
- the enuresis is a reaction to personality difficulties of long standing.

It could be concluded though, that persistent enuresis may lead to disturbed family relationships which, if it lasts too long may actually lead to a general deterioration of personality traits.

BEHAVIORISTIC FORMULATIONS: The essence of the behavioristic approach to the etiology of enuresis has been listed by Yates (1970) in the following series of propositions;

1. That, in the newborn child, the voiding reflex is an extremely powerful natural reflex which is essential if the infant is to survive.

2. That the problem faced by the growing child is to develop the higher nervous centers, by both maturation and learning, to the extent that inhibitory factors are strong enough to hold in check the natural reflex until voluntary voiding can be achieved.

3. That this achievement represents a high level skill of considerable complexity and that it is not, therefore, surprising that some children have difficulty in achieving such control.

The problems to be tackled under the Behavior Formulations are;

- (a) How is normal micturitional control established, both nocturnal and diurnal ?
- (b) What factors are involved in the failure to achieve such control?

Kuru (1965) explained the Physiological basis of micturitional control. In his explanation he claimed that urine passes from the kidney through the ureters by what is known as peristaltic action into the bladder. The wall of the bladder contains the detrusor muscle which does not automatically yield linearly to increased volume of urine but maintains a steady level of pressure until the volume exceeds about 200 ml. When the volume is above the 200 ml. point, the detrusor muscle is unable to maintain the tone. The detrusor muscle tone is controlled by the antagonistic action of the pelvic and hypogastric nerves, which are parts of the parasympathetic and sympathetic divisions of the autonomic nervous system, respectively. As the detrusor muscle is unable to maintain the tone it begins to contract rhythmically, leading ultimately to the micturition reflex which involves strong contractions of the detrusor muscle and relaxation of the internal followed by the external splincters, and involuntary voiding of urine.^{21.}

In the medical and psychiatric formulations the development of cortical control of micturition is very important and many researchers have dealt on the major important factors which can be of

help to the enuretic to be able to develop cortical control of micturition;

1. The child needs to acquire the skill for inducing voluntary urination when the act is required to be performed even when the bladder is not full.

2. The child must learn to develop capacity to inhibit detrusor activity with increasing volumes and pressures of urine, to the point at which reflex voiding is unlikely to occur even when the bladder is full and the urgency to micturate is very high.

3. The child also needs to be able to acquire the ability to exercise this control during sleep. To avoid enuresis the child must be able to ; (a) Transfer the daytime inhibitory control sleep and (b) Should the bladder pressure increase during sleep to the point at which voiding becomes imminent, the bladder pressure must be capable of waking the child up before voiding occurs.

4. The child must be able to receive signals both from internal and external factors. This control is mostly due to parental training maturation and learning. Situational cues are more useful for the control of voiding at this stage.

POSSIBLE TREATMENTS OF ENURESIS

It is evident that enuresis has been a problem since ancient times. (Glicklich, 1951) and over the centuries, attempts have been made with incredible variety of methods. In several countries folk remedies have included procedures as raising the foot of the bed, sleeping on one's back, sleeping on cotton reels, the consumption of numerous potions and making the enuretic urinate charcoal or wood fire before going to bed. Modern treatment has included the use of drugs, surgical procedures and the mechanical constriction of the urinary orifice and the use of conditioning machines such as the 'enutone'.

The most common present-day treatment of enuresis include; Psychosocial methods of Intervention, Restriction of fluid intake, Hypnotherapy, Psychotherapy, Waking the enuretic at intervals in the night, Diurnal bladder tolerance training, Direct conditioning, The behavioral model of training, and the most recent Doughnut-muscle method. Whatever model of intervention is used, the enuretic needs considerable support, within the framework of firm expectations, in order to achieve mastery of nocturnal bladder control.

The first caution recommended in the treatment of enuresis is the need for a thorough physical examination. Enuresis could be due to disturbances of the urinary tract and the bladder. Once this physical examination is carried out and the results

are negative then the child is able to cope with any kind of treatment to get rid of the enuretic disorder.

DRUG THERAPY: Earlier, many types of mild sedatives and mild medications were prescribed to influence the autonomic nervous system. But in recent years, IMIPRAMINE (Tofranil) has been advocated. The Tofranil has been prescribed as a mood elevator. This medication works on the basis of raising the child's deep sleep level so that he is able to awake at the time he feels the urge to urinate. Since one of its side effects is a tendency to inhibit evacuation of the urinary bladder; the recommended dose is 25mg. tablet for children under eleven, and 50mg. for children above age eleven at bedtime.

Results of Drug therapy on the treatment of enuresis has been reported disappointing by many researchers. (Braithwaite,^{22.} 1955). Also, (Bostock,1962),^{23.} (Munster, Stanley and Saunders, 1961),^{24.} all claim in their studies that relapse follows withdrawal of the drug.

A return to the earlier levels of bed-wetting following the withdrawal of medication was also observed in two placebo-controlled studies of enuretic army and navy recruits. (Dorison & Blackman,^{25.} 1962) and (Hicks & Barnes, 1964)^{26.}

In another placebo-controlled study of imipramine in the treatment of sampled enuretics by Poussaint and Ditman (1965). The drug dosages in this study (up to 75mg. for children ten

ten years and above) were higher than those usually administered, and the drug was gradually withdrawn, rather than the usual sudden withdrawal in previous researches on imipramine. The result showed that at the end of eight weeks imipramine had produced a significantly greater reduction in bed-wetting than the placebo. At this point, the dosage was increased and the treatment response was observed to improve markedly. 24% of the sample became completely dry and remained so even when the drug was withdrawn over a period of four to six weeks (Follow up 1-3 months). 15% showed no improvement when the drug was raised to maximum levels. This led the authors to conclude that, gradual withdrawal of drug was responsible for the training effects observed. This conclusion shows that drug therapy may be effective in some enuretics if its use and withdrawal is highly controlled and regulated.

BEHAVIOR MODIFICATION: In Behavior modification, whatever the enuretic considered a reward is usually made use of to condition or eradicate the enuresis. Rewards often used include; food, praise, token, and gifts. The enuretic, is generally praised when there is no sign of bed-wetting in the morning. Such a reward is considered a reinforcer which could bring about more nights without bed-wetting. Along with reward, punishment is often made use of in behavior modification to act as a support for the reinforcer. This is done by applying punishment such as withdrawal of certain privileges of which the child is fond of whenever bed-wetting occurs. Such punishments should be fully explained to the enuretic and made to understand that such withdrawals will be restored as soon as the enuretic stops uncontrolled voiding.

PSYCHOANALYTICAL OR PSYCHOTHERAPEUTIC METHODS OF INTERVENTION:

Treatment for the enuretic is directed toward uncovering the conditions which create tensions and interfere with the enuretic personality. With this approach and many other approaches parents are urged not to embarrass the enuretic child. The enuretic must be allowed to build up self confidence by gaining increased independence and responsibility. If the child begins to bed-wet after the birth of a new baby it is important to give the child more individual attention. Children who bed-wet after starting school need parental help to overcome the trauma of a school which is utterly different from the home environment of parental support. Many psychotherapists have claimed that some enuretics actually feel like going back into the womb. The analysis here is the warmth in the womb and the ability to start all over again. (Honig, 1977). In order to accomplish a more stable and emotionally gratifying home environment, it may be necessary to have counseling sessions with parents of enuretics. During such sessions the parents can evaluate their own emotional and marital adjustment and its effect on their child's behavior problems. The parents can therefore provide an environment of understanding and affection if they realize this has been lacking. Once this is done, it could be realized that the child's symptoms of emotional disturbance may begin to disappear. Stresses and strains at home and at school should be eliminated if children are to be relieved of the emotional tensions which resulted into enuresis. Continuous dialogue with the enuretic, allowing the enuretic to express his feelings of inadequacy to perform this developmental task are some of the psychosocial methods which make psychotherapeutic approach more

reliable and with possibly no relapse when compared with other methods of intervention.

DIURNAL BLADDER TRAINING METHOD OF ENURESIS INTERVENTION: The proponent of the Diurnal Bladder Training is Mullner, who, in 1960 treated bed-wetters by making them practise the holding of urine after the ingestion of increased quantities of fluid during the daytime. The purpose of this was to provide the enuretic the ability to increase the functional capacity of the bladder, Muellner²⁷ considered this was the essential cause of enuresis. In another similar study Vincent(1964) reported positive results on the use of perineal pressure appliance. When the perineum was artificially elevated, children without structural abnormalities of the urinary system lose the desire to micturate, and training in increased bladder tolerance occurs. He concluded that the results are much better in cases with diurnal frequency and urgency as well as bed-wetting, than in cases of nocturnal enuresis without diurnal symptoms.²⁸

USE OF MACHINES (ENUTONE) IN THE TREATMENT OF ENURESIS: The use of machines in the treatment of enuresis is now common. The most common of such machine is "Enutone". The enutone is attached to the child's bed linens before the child retires to bed. Urine causes a bell to buzz and the child awakens. The goal in this case is to interrupt by negatively reinforcing the enuretic behavior. The child is expected to be rewarded by parents or ward when the enuretic child successfully goes through the night without wetting. This approach can also fall under 'Behavior Modification'.

REFERENCES

1. Crosby, N.D. "Essential Enuresis: Successful treatment based on Physiological Concepts." Med. J. Austr., 1950 1, 534.
2. Michaels, J. "Disorders of Character. Springfield: C.C.Thomas.1955.
3. Anderson, F.N. "Psychiatric Aspects of Enuresis" American J. of Diseases of Children. Vol.40 1930 591-618.
4. Narramore, Clyde M. Encyclopedia of Psychological Problems-A Counselling Manual. Zondervan Publishing House, Grand Rapids, Michigan. 1981 91.
5. Bransby, E.R., Bloomfield, J.M., & Douglas, J.W.B.The Prevalence of bed-wetting. Med. Offr., 1955, 94. 5-7.
6. Freud, S. Three Contributions to the theory of Sex. (1905). London:Hogarth, 1962.
7. Fenichel, O. "The Psychoanalytic theory of Neurosis" London Routledge and Kegan Paul, 1945 232-233.
8. Berezin, M.A. Enuresis and bisexual identification. J.Amer. Psychoanal. Assoc., 1954,2, 509-513.
- 9.Robertiello, R.C. Some psychic interrelations between the urinary and sexual systems with special reference to enuresis. Psychiat. Quart.,1956, 30. 61-62.
- 10.Imhof, B. Bettnasser in der Erziehungsberatung. Heilpadag., Werkbl., 1956, 25 122-127.
11. Decurtins,F. Bettnasser in psychiatrischer Sicht. Heilpadag. Werkbl.,1957,26, 197-201.
12. Crosby, N.D. Essential Enuresis:Successful treatment based on Physiological concepts. Med. J. Austr.,1950.1,534.

13. Yates, Aubrey.J. Behavior Therapy. John Wiley & Sons, Inc.
New York 1970 80.
14. Gillison, T.H & Skinner. J.L. Treatment of Nocturnal Enuresis
by the electric alarm. Brit. Med. J.,1958,2. 1268-1272.
15. Hodge,R & Hutchings,H.M. Enuresis: a brief review, a tentative
theory and a suggested treatment. Arch. Dis. Child.,
1952, 27, 498-504.
16. Stalker, H. & Band, D. Persistent Enuresis:a psychosomatic
study. J.Ment. Sci., 1946, 92 324-342.
17. Braithwaite, J.V. "Some problems associated with enuresis."
Proc. Roy. Soc. Med., 1955, 49 33-38.
18. Lickorish, J.R. "One Hundred enuretics." J.Psychosom. Res.
1964, 7. 263-267.
19. Michaels, J. " Disorders of character" Springfield:C.C.Thomas
1955.
20. Pierce, C.M., Lipcon, H.H., McLary, J.H., & Noble, H.F.
Enuresis:Psychiatric interview studies. U.S. Armed
Forces Med. J. 1956. 76 310-316.
21. Kuru, M. Nervous control of micturition. Physiol. Rev.,
1965, 45, 425-494.
22. Braithwaite, J.V. Op. Cit.
23. Bosock, J. The deep sleep-enuresis syndrome. Med. J. Austr.,
1962. 49.(1) 240-243.
24. Munster, A.J. Stanley, A.M. & Saunders, J.C. Imipramine(Tofranil)
in the Treatment of Enuresis. Amer. J. Psychiat., 1961.
118, 76-77.

25. Dorison, E.E. & Blackman, S. Imipramine in the treatment of Adult Enuretics. Amer. J. Psychiat., 1955. 111. 913-920.
26. Hicks, W.R. & Farnes, E.H. A double blind study of the effect of imipramine on enuresis in 100 Naval recruits. Amer. J. Psychiat., 1964, 120 812.
27. Muellner, S.R. Development of Urinary control in children: A new concept in cause, prevention and treatment of primary Enuresis. Amer. J. Urol., 1960, 84. 714-716.
28. Vincent, S.A. Treatment of Enuresis with a perineal pressure apparatus: the irritable bladder syndrome. Develop. Med. Child Neurol., 1964, 6. 23-31.